REMARKS

Claims 1-15 are pending in the application. No claim amendments have been presented. Accordingly, claims 1-15 will remain pending upon entry of the present amendment.

Claim Rejections, 35 U.S.C. §112

Claims 1-5 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Specifically the Examiner has indicated that the subject matter of the claims (*e.g.*, the "metal ion") was not described in the specification in such a way as to enable one of skill in the art to make and/or use the invention. Applicants respectfully traverse this rejection, and direct the Examiner's attention to the passage on page 9, lines 2-11, of the specification as filed. This passage indicates that methods for making the solid polymer electrolytes of the present invention include:

> mixing the acidic group-possessing polymer, a basic monomer, and a compound for producing a metal ion in a solvent, or mixing ***a metal complex compound composed of a metal ion and the acidic group-possessing polymer*** and a basic monomer in a solvent;
>
> polymerizing the basic monomer to produce the basic polymer and compatibilizing the basic polymer and the acidic group-possessing polymer to produce a compatibilized polymer; and
>
> separating the compatibilized polymer ***from the solvent***.

With regard to the above passage, Applicants respectfully point out two elements in particular. As a preliminary matter, please note that the specification clearly provides "a metal complex compound composed of a metal ion and the acidic group-possessing polymer" as an alternative to a solution comprising an acidic group-possessing polymer and a compound for producing a metal ion in a solvent. A person of ordinary skill in the art would understand that a "metal complex compound composed of a metal ion and the acidic group-possessing polymer" is a compound where a hydrogen ion of the acidic group-possessing polymer is replaced with a metal ion. In addition, it appears that the Examiner bases at least a portion of the rejection on the separation of the compatibilized polymer. Applicants respectfully point out that the specification provides that the compatibilized polymer is separated from the solvent. The

specification does not indicate that the compatibilized polymer is completely separated from the metal ion.

Notwithstanding the foregoing passage, Applicants also respectfully argue that a person of ordinary skill in the art would know that a metal ion would remain in the solid polymer electrolyte for the following reasons. Sulfonic acid groups are very acidic, and a substantial portion of these groups will dissociate into sulfonate ions and hydrogen ions when placed in water. When a metal ion is added to such a solution, there is a strong interaction between the negatively charged sulfonate ion and the metal ion. Unless another ***acid*** is added to the solution, the percentage of hydrogens that are dissociated (and thus interact with the metal ion) ***will not significantly change***. In contrast, in the present invention, ***basic material*** (*i.e.*, material used to form the basic polymer) is added to the solution. This basic material would actually cause increased dissociation of the sulfonic acid groups into sulfonate ions and hydrogen ions (and, in turn, an interaction with more metal ions). A skilled artisan would know from very simple acid-base chemistry that free sulfate ions will associate with metal ion, and in the absence of adding additional hydrogen ions, ***this association will not cease to exist with the removal of the solvent***. Accordingly, the present specification provides enablement for a solid polymer electrolye having a metal ion.

In view of the foregoing, Applicants respectfully request reconsideration of the claims and withdrawal of the rejection under 35 U.S.C. §112, first paragraph.

Claim Rejections, 35 U.S.C. §102

The rejection of claims 1-2 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,525,436 to Savinell et al. (hereafter "Savinell") as well as the rejection of claims 1-5 under 35 U.S.C. §102(e) as being anticipated by United States Patent Application Publication No. 2002/0094466 to Kerres et al. (hereafter "Kerres") have both been maintained.

As a preliminary matter, Applicants respectfully submit that the Examiner is treating the solid polymer electrolyte of claims 1-5 as a product-by-process because the Examiner is assuming that the metal ion is only used in the process, and is not present in the resultant

material. Applicants respectfully traverse. Claim 1 recites, in pertinent part, a proton conductive solid polymer electrolyte ***comprising a basic polymer, a metal ion, and an acidic group-possessing polymer***. That is, it is clear from the claim language as well as the comments presented above with regard to the rejection under 35 U.S.C. §112, first paragraph, that the metal ion remains in the solid polymer electrolyte and becomes part of the final product. Accordingly, Applicants respectfully reiterate that neither Savinell nor Kerres disclose a "proton conductive solid polymer electrolyte comprising a basic polymer, a metal ion, and an acidic group-possessing polymer..." as required by claim 1.

In view of the foregoing, Applicants respectfully request reconsideration of the claims and withdrawal of the rejection under 35 U.S.C. §102(b).

CONCLUSION

In view of the above comments, Applicants believe that the pending application is in condition for allowance.

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Respectfully submitted,

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